



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/870,823	06/01/2001	Tadahiko Kubota	012777-041	8408

7590 08/08/2005
Platon N. Mandros
BURNS, DOANE, SWECKER & MATHIS, L.L.P.
P.O. Box 1404
Alexandria, VA 22313-1404

EXAMINER

PERRY, ANTHONY T

ART UNIT PAPER NUMBER

2879

DATE MAILED: 08/08/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/870,823

Applicant(s)

KUBOTA ET AL.

Examiner

Anthony T. Perry

Art Unit

2879

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 18 May 2005.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-6 and 8-20 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-6 and 8-20 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 01 June 2001 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

DETAILED ACTION

Response to Amendment

The Amendment filed on 5/18/2004, has been entered and acknowledged by the Examiner.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1-6 and 8-14 and 19 are rejected under 35 U.S.C. 103(a) as being unpatentable over Gotoh et al. (EP 0 910 107 A1) in view of Kawamoto et al. (JP 2000-114773).

Regarding claims 1 and 19, Gotoh et al. teach an electromagnetic-wave-shielding film comprising a transparent support (11) and a conductive layer comprising a metal thin film in the form of a mesh film (12), wherein a unit space area of the mesh film is $.012544 \text{ mm}^2$, which is less than two fifths of an area of a pixel of an image display device (see for example Fig. 3 and col. 1, lines 40-45). Note that any image display device with a pixel having an area that is five halves the size of the unit space area of the mesh film can be used in the comparison since the display device is not claimed. Accordingly, the pixel area of 1.1664 mm^2 , as taught in US 6,295,040 is used in the comparison. Gotoh et al. do not specifically teach the mesh film comprising lattice lines that define a quadrilateral and a unit space having a shape of a pentagon, hexagon, circle, or an ellipse.

However, Kawamoto et al. teach a mesh pattern that comprises lattice lines which define a plurality of quadrilateral unit spaces and elliptical unit spaces (see fig. 5). Kawamoto teaches that such a mesh pattern that comprises a random pattern prevents Moire phenomenon from appearing to a greater extent than does a mesh film that consists of a repeating pattern, as the one taught in the Gotoh reference (see for example paragraphs 15-16). Accordingly, it would have been obvious to one of ordinary skill in the art at the time the invention was made to adapt the mesh pattern of Gotoh providing a pattern as shown in Fig. 5 of the Kawamoto reference, in order to prevent the occurrence of Moire phenomenon, improving the display of the device.

Kawamoto does not specifically state a one of the unit spaces being a pentagon or hexagon. However, it has been held that a change in shape, absent any evidence for the criticality of the particular shape, is a matter of choice. It is noted that the applicant's specific shape of a pentagon or hexagon, does not solve any of the stated problems or yield any unexpected result that is not within the scope of the teachings applied. Therefore it is considered to be a matter of choice, which a person of ordinary skill in the art would have found obvious to select any shapes (ellipses, circles, hexagons, pentagons) for the mesh portions as long as they are formed in a random pattern so as to effectively prevent moiré effect.

Regarding claim 2-3, the shapes of the random mesh portions formed in the conductive layer are formed by intersecting points (see Fig. 5).

Furthermore, the Examiner notes that the recitations "obtained by shifting lattice lines of a regular lattice pattern from the original position thereof" and "located within an area defined by linking middle points between an individual intersecting point and each adjacent point thereof of the regular lattice before shifting the lattice lines" are drawn to a process of manufacturing which is incidental to the claimed apparatus. It is well established that a claimed apparatus cannot be

Art Unit: 2879

distinguished over the prior art by a process limitation. Consequently, absent a showing of an unobvious difference between the claimed product and the prior art, the subject product-by-process claim limitation is not afforded patentable weight (see MPEP 2113). Therefore, it is the position of the examiner that it would have been obvious to one of ordinary skill in the art that the mesh film disclosed by Kawamoto is at least a fully functional equivalent to the Applicant's claimed invention as evidenced by the Gotoh and Kawamoto combination's suggestion of all of the Applicant's claimed structural limitations.

Combination provided in the rejection of claim 1 applies.

Regarding claim 4, the Gotoh reference teaches that the mesh film formed from the metal thin film is formed by etching using a photolithography method (see for example col. 5, lines 24-32).

Regarding claim 5, Gotoh et al. teach that the lattice lines each have a width of 15 micrometers (see Fig. 3).

Regarding claim 6, Gotoh et al. teach that the lattice lines have a thickness of 0.1 micrometers (see for example col. 5, lines 24-26).

Regarding claim 8, Gotoh and Kawamoto do not specifically state that the film is subjected to blackening. However, it is well known in the art to blacken the metal thin film so as to remove the color of the metal and to prevent reflection. Accordingly, one of ordinary skill in the art would have found it obvious at the time of the invention to blacken the mesh film so as to prevent reflection providing a better contrast to the display device.

Regarding claim 9, Gotoh and Kawamoto do not specifically state the use of an infrared-ray cutting layer containing a dye that absorbs light in an infrared-ray range. However, it is well known in the art to provide such a dye so as to block heat-rays (infrared-rays) so as to block the

Art Unit: 2879

internal components of the display device from external heat. Accordingly, one of ordinary skill in the art would have found it obvious at the time of the invention to provide such a dye so as to block heat-rays (infrared-rays) so as to protect the display device and its components from external heat.

Regarding claim 10, Gotoh teaches that the electromagnetic-wave-shielding film contains a dye that absorbs light in a visible range (see for example col. 5, lines 8-15).

Regarding claim 11, Gotoh et al. teach a method of producing an electromagnetic-wave-shielding film comprising a transparent support (11) and a conductive layer comprising a metal thin film in the form of a mesh film (12), wherein a unit space area of the mesh film is $.012544 \text{ mm}^2$, which is less than two fifths of an area of a pixel of an image display device (see for example Fig. 3 and col. 1, lines 40-45). Note that any image display device with a pixel having an area that is five halves the size of the unit space area of the mesh film can be used in the comparison since the display device is not claimed. Accordingly, the pixel area of 1.1664 mm^2 , as taught in US 6,295,040 is used in the comparison. Gotoh et al. do not specifically teach the mesh film comprising lattice lines which define a unit space having a shape of a pentagon, hexagon, circle, or an ellipse.

However, Kawamoto et al. teach a mesh pattern that comprises lattice lines which define at least a quadrilateral unit space and an elliptical unit space (see fig. 5). Kawamoto teaches that such a mesh pattern that comprises a random pattern prevents Moire phenomenon from appearing to a greater extent than does a mesh film consisting of a repeating pattern, as the one taught in the Gotoh reference (see for example paragraphs 15-16). Accordingly, it would have been obvious to one of ordinary skill in the art at the time the invention was made to adapt the

Art Unit: 2879

mesh pattern of Gotoh providing a pattern as shown in Fig. 5 of the Kawamoto reference, in order to prevent the occurrence of Moire phenomenon, improving the display of the device.

Kawamoto does not specifically state a one of the unit spaces being a pentagon or hexagon. However, it has been held that a change in shape, absent any evidence for the criticality of the particular shape, is a matter of choice. It is noted that the applicant's specific shape of a pentagon or hexagon, does not solve any of the stated problems or yield any unexpected result that is not within the scope of the teachings applied. Therefore it is considered to be a matter of choice, which a person of ordinary skill in the art would have found obvious to select any shapes (ellipses, circles, hexagons, pentagons) for the mesh portions as long as they are formed in a random pattern so as to effectively prevent moiré effect.

Regarding claim 12, the Gotoh and Kawamoto reference do not specifically state that the random mesh portions are obtained by shifting lattice lines of a regular lattice pattern from the original position thereof. However, it is noted that the applicant's specific limitation of the random mesh portions being formed by shifting the lattice lines of a regular lattice pattern from the original position thereof, does not solve any of the stated problems or yield any unexpected result that is not within the scope of the teachings applied. Therefore it is considered to be a matter of choice, which a person of ordinary skill in the art would have found obvious to select any known method (screen printing, electroless plating, a photolithography method, shifting lattice lines of a regular lattice pattern) of forming the random mesh portions as long as they do not form a repeating pattern and comprise at least a quadrilateral unit space and an elliptical unit space.

Regarding claim 13, the Gotoh reference teaches that the mesh film is formed from the metal thin film by electroless plating (see for example col. 5, lines 24-25).

Art Unit: 2879

Regarding claim 14, the Gotoh reference teaches that the mesh film formed from the metal thin film is formed by etching using a photolithography method (see for example col. 5, lines 24-32).

Claims 15-18 and 20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Nhan et al. (US 6,295,040) in view of Gotoh et al. (EP 0 910 107 A1) further in view of Kawamoto et al. (JP 2000-114773).

Regarding claims 15-16 and 20, Nhan et al. teach an image display device that has a pixel area of 1.1664^2 mm. Nhan et al. does not teach the use of an electromagnetic-wave-shielding film.

However, Gotoh et al. teach the use of an electromagnetic-wave-shielding film comprising a transparent support (11) and a conductive layer comprising a metal thin film in the form of a mesh film (12), wherein a unit space area of the mesh film is $.012544 \text{ mm}^2$ (see for example Fig. 3 and col. 1, lines 40-45). Gotoh teaches that a mesh film having a line width of 15 micrometers and line intervals of 127 micrometers (unit space area of 0.012544 mm^2) prevents electromagnetic waves from leaking (see for example col. 1, lines 40-45 and col. 5, lines 32-39). Gotoh et al. teach that such an electromagnetic-wave-shielding film prevents electromagnetic waves from leaking out and interfering with the image light (see for example col. 1, lines 5-45). Accordingly, it would have been obvious to one of ordinary skill in the art at the time the invention was made to have provided the PDP of Nhan with an electromagnetic-wave-shielding film taught by Gotoh in order to reduce leakage of the electromagnetic waves providing a more accurate image. Gotoh et al. do not specifically teach the mesh film comprising lattice lines which define a unit space having a shape of a pentagon, hexagon, circle, or an ellipse.

However, Kawamoto et al. teach a mesh pattern that comprises lattice lines which define several quadrilateral units of space and an elliptical unit space (see fig. 5). Kawamoto teaches that such a mesh pattern that comprises a random pattern prevents Moire phenomenon from appearing to a greater extent than does a mesh film that consists of a repeating pattern, as the one taught in the Gotoh reference (see for example paragraphs 15-16). Accordingly, it would have been obvious to one of ordinary skill in the art at the time the invention was made to adapt the mesh pattern of Gotoh providing a pattern as shown in Fig. 5 of the Kawamoto reference, in order to prevent the occurrence of Moire phenomenon, improving the display of the device.

Kawamoto does not specifically state a one of the unit spaces being a pentagon or hexagon. However, it has been held that a change in shape, absent any evidence for the criticality of the particular shape, is a matter of choice. It is noted that the applicant's specific shape of a pentagon or hexagon, does not solve any of the stated problems or yield any unexpected result that is not within the scope of the teachings applied. Therefore it is considered to be a matter of choice, which a person of ordinary skill in the art would have found obvious to select any shapes (ellipses, circles, hexagons, pentagons) for the mesh portions as long as they are formed in a random pattern so as to effectively prevent moiré effect.

The shapes of the random mesh portions formed in the conductive layer are formed by intersecting points (see Fig. 5).

Furthermore, the Examiner notes that the recitations "obtained by shifting lattice lines of a regular lattice pattern from the original position thereof" and "located within an area defined by linking middle points between an individual intersecting point and each adjacent point thereof of the regular lattice before shifting the lattice lines" are drawn to a process of manufacturing which is incidental to the claimed apparatus. It is well established that a claimed apparatus cannot be

Art Unit: 2879

distinguished over the prior art by a process limitation. Consequently, absent a showing of an unobvious difference between the claimed product and the prior art, the subject product-by-process claim limitation is not afforded patentable weight (see MPEP 2113). Therefore, it is the position of the examiner that it would have been obvious to one of ordinary skill in the art that the mesh film disclosed by Kawamoto is at least a fully functional equivalent to the Applicant's claimed invention as evidenced by the Nhan-Gotoh-Kawamoto combination's suggestion of all of the Applicant's claimed structural limitations.

Regarding claim 17, Nhan, Gotoh, and Kawamoto do not specifically state the use of an infrared-ray cutting layer containing a dye that absorbs light in an infrared-ray range. However, it is well known in the art to provide such a dye so as to block heat-rays (infrared-rays) so as to block the internal components of the display device from external heat. Accordingly, one of ordinary skill in the art would have found it obvious at the time of the invention to provide such a dye so as to block heat-rays (infrared-rays) so as to protect the display device and its components from external heat.

Regarding claim 18, Gotoh teaches that the electromagnet-wave-shielding film is mounted to the front surface of the PDP.

Response to Arguments

Applicant's arguments with respect to claims 1-6 and 8-20 have been considered but are moot in view of the new ground(s) of rejection.

Conclusion

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

Art Unit: 2879

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Other Prior Art Cited

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

JP 2001-22283 teaches a mesh electromagnetic-wave-shielding film wherein the unit space area of the mesh is one sixth of the area of a pixel.

Yoshikawa et al. (US 6,090,473) teaches that the openings of the mesh patterns are not limited to a specific shape or pattern. Fig. 3f shows ellipses (also taught by Kawamoto) as the openings in the mesh and Fig. 3d shows the use of hexagons as an alternative to the ellipse openings. Yoshikawa further teaches that the patterns can be formed randomly instead of repeating so as to prevent moiré phenomenon.

Contact Information

Any inquiry concerning this communication or earlier communications from the examiner should be directed to *Anthony Perry* whose telephone number is (571) 272-2459. The examiner can normally be reached between the hours of 9:00AM to 5:30PM Monday thru Friday.

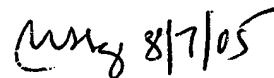
Art Unit: 2879

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Nimesh Patel, can be reached on (571) 272-24597. **The fax phone number for this Group is (571) 273-8300.**

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Anthony Perry
Patent Examiner
Art Unit 2879
August 6, 2005



Mariceli Santiago
Primary Examiner
Art Unit 2879